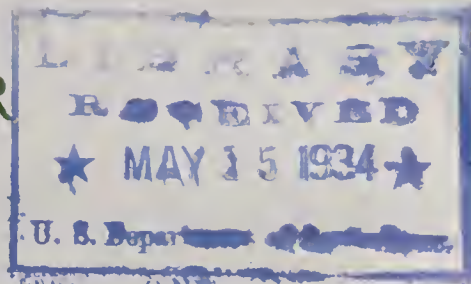


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CROTALARIA AS A SOIL BUILDER



Vegetable Seed Trials



Field of Crotalaria Spectabilis Eight Feet Tall.

In 1909 the Florida Experiment Station cooperating with the Forage Crop Office of United States Department of Agriculture introduced a leguminous plant which today ranks high as a soil improver, especially for poor, sandy soils.

Various species of this plant, CROTALARIA, have been tried out but the most promising one is CROTALARIA SPECTABILIS. This plant grows to a height of 4 to 8 feet, has yellow flowers, the leaf is one-bladed or simple, seed are black, starts flowering about 100 days after germination and puts on all its flowers during a definite period. It is killed by a temperature of 28 degrees F.

Crotalaria may be sown as soon as evidence of frost is over in the spring. In Florida it is safe to sow as early as March and late as May. Early seeding generally produces a more satisfactory cover crop to compete with weeds. Rate of seeding varies from 5 to 20 pounds per acre, the heavier seeding produces heavier stands, a finer quality top growth and a larger yield.

The seed may be planted broadcast or in rows, both methods give good results. If planted in rows, about three feet apart and two feet in drills, use 6 to 10 seeds to hill, when plants are 3 inches high, thin to 3 to grow, is recommended. No inoculation is necessary; thorough preparation of the land and shallow covering of the seed are recommended.

Crotalaria for hay can be mowed once a year, just before blooming commences, to prevent it from becoming too coarse. Should not be cut closer than 8 inches to the surface of the ground; a second top growth will then soon follow. Cutting plants close to the ground results in a poor second top growth.

Crotalaria when grown on Norfolk sandy soil and harvested as a hay crop has produced one-third more in pounds per acre than cow peas, twice as much as bunch velvet beans and three times the yield produced by beggarweed.

VALUABLE AS A GREEN MANURE CROP

As a soil improver, Crotalaria has given better results than other leguminous crops. The percentage and quality of nitrogen is as high or higher than in any other leguminous crop. The analysis of the nitrogen taken in by the Crotalaria plant is about the same as cowpeas or velvet beans, that is, a ton of dry material of Crotalaria will carry about 40 pounds of nitrogen. Crotalaria makes quite more growth than either of these other crops mentioned, when it is turned back to the soil would consequently add more nitrogen to the soil.

This high percentage of nitrogen coupled with the large yield of top growth has produced more than 200 pounds per acre of nitrogen in test carried on in Florida. The greater part of this nitrogen is fixed from the air by the nodule bacteria on the roots of the plant.

Turning under this high nitrogen crop not only increases the available nitrogen in the soil but adds to the humus content of the soil. When compared with other green manure crops turned under, Crotalaria produced 3,000 pounds more organic material per acre.

Decomposition goes on very rapidly if turned under in a succulent stage of growth, but when turned under in more mature growth stages, it decomposes more slowly and prevents the heavy loss of nitrogen and organic matter. The slower decomposition of the plant residue provides available nitrogen to the growing crop over a long period of time and in amounts favorable for the needs of the crop.

This increase of organic matter to the soil decreases the loss of fertilizer constituents, augments its water holding capacity, and lessens excessive aeration by cementing together the sandy soil particles.

Crotalaria is one of the most valuable leguminous crops, and the cost of seeding the ground is very small.

For seeding an acre in rows three feet apart require 5 pounds, to sow broadcast require 12 to 20 pounds.

Price of recleaned seed, Crotalaria Spectabilis, high germination, less than 100 pounds at 30c per pound, over 100 pounds at 25c per pound, F. O. B. Monticello, Florida.

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